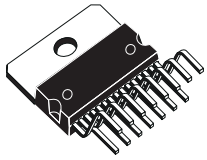
VISIT…

TDA7497

10W+10W+10W/18W TRIPLE AMPLIFIER

- 10+10W (RL = 8Ω) + 18W (RL = 4Ω) or 10+10+10W (RL = 8Ω) OUTPUT POWER @THD = 10%, Vcc = 26V
- INDEPENDENT MUTE FOR CENTER CHANNEL AND MAIN CHANNELS
- NO TURN-ON TURN-OFF POP NOISE
- NO BOUCHEROT CELL
- SINGLE SUPPLY RANGING UP TO 35V
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION
- INTERNALLY FIXED GAIN
- SOFT CLIPPING
- MULTIWATT 15 PACKAGE

MULTIPOWER BI50II TECHNOLOGY



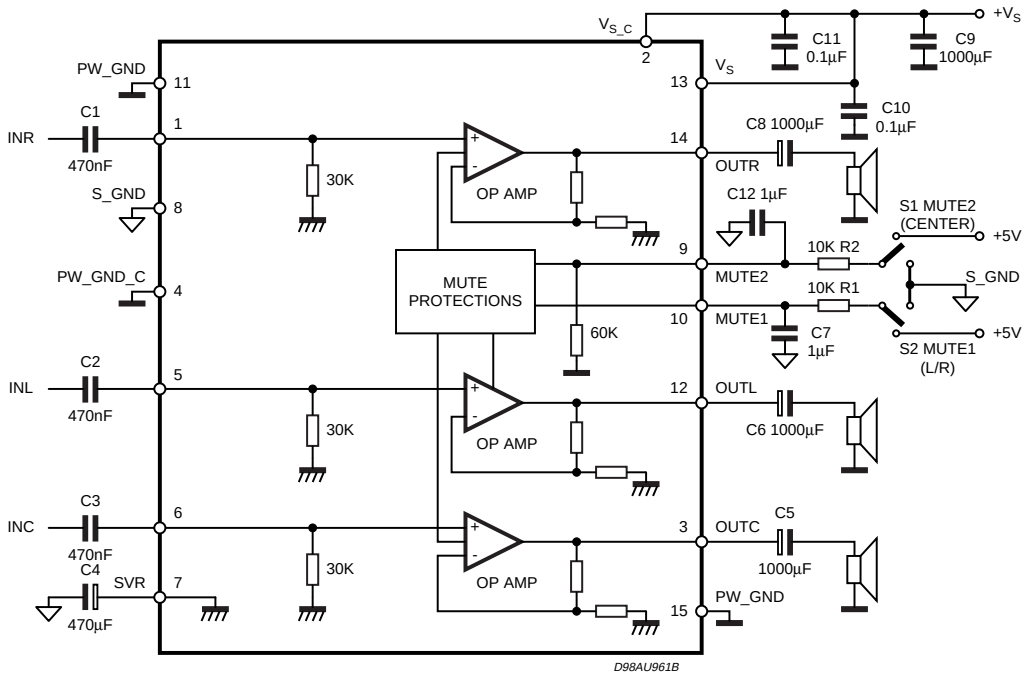
Multiwatt15
ORDERING NUMBER: TDA7497

DESCRIPTION

The TDA7497 is a triple 10+10+10/18W class AB power amplifier assembled in the @ Multiwatt 15 package, specially designed for high quality sound, TV applications.

Features of the TDA7497 include mute functions, independently controller for main and center channels.

BLOCK DIAGRAM

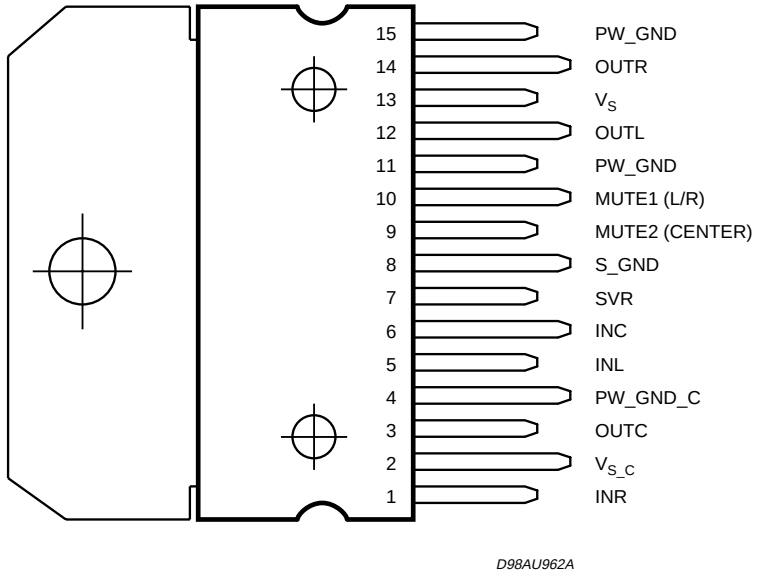


ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	DC Supply Voltage	35	V
P_{tot}	Total Power Dissipation (Tamb = 70°C)	20	W
T_{amb}	Ambient Operating Temperature (1)	0 to 70	°C
T_{stg}, T_j	Storage and Junction Temperature	-40 to 150	°C

(1) Operation between -20 to 85 °C guaranteed by correlation with 0 to 70°C.

PIN CONNECTION (Top view)



THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Typ.=1.3 max = 1.9	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	max = 35	°C/W

ELECTRICAL CHARACTERISTCS (Refer to the test circuit V_S = 26V; R_L = 8Ω, f =1KHz, R_g = 50Ω, T_{amb} =25°C)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage Range		11		32	V
I_q	Total Quiescent Current			60	100	mA
V_O	Quiescent Output Voltage		12	13	14	V
$P_{O_L/R}$	Output Power Left / RightChannels	THD = 10% THD = 1%; THD = 10%; RL = 4Ω; Vs = 20V THD = 1%; RL = 4Ω; Vs = 20V THD = 10%; RL = 8Ω; Vs = 18V THD = 1%; RL = 8Ω; Vs = 18V	8 6 7 5 3.5 2.2	10 7.5 8 6 3.8 2.9		W W W W W W
P_{O_C}	Output Power Center Channel	THD = 10% THD = 1% THD = 10%; RL = 4Ω THD = 1%; RL = 4Ω	8 6 15 11	10 7.5 18 14		W W W W
THD	Total Harmonic Distortion	PO = 1W; f = 1KHz;			0.4	%
$I_{peak\ L/R}$	Output Peak Current	(internally limited)		2.4		A
$I_{peak\ C}$	Output Peak Current Central Channel	(internally limited)		2.8		A
GV	Closed Loop Gain		28.5	29.5	30.5	dB
ΔGV	L/R Voltage GainMatching		-1		1	dB
BW				0.6		MHz
e_N	Total Output Noise	f = 20Hz to 22KHz		60	150	µV
SR	Slew Rate		5	8		V/µs
R_i	Input Resistance		22.5	30		KΩ
SVR	Supply Voltage Rejection	f = 1kHz CSVR = 470µF; VRIP = 1Vrms	50	60		dB
T_M	Thermal Muting			150		°C
T_s	Thermal Shut-down			160		°C
MUTE & INPUT SELECTION FUNCTIONS						
V_{MUTE1}	Mute 1 ON threshold (L/R)		3.5			V
	Mute 1 OFF threshold (L/R)				1.5	V
V_{MUTE2}	Mute 2 ON Threshold (center)		3.5			V
	Mute 2 OFF Threshold (center)				1.5	V
A_{MUTE}	Mute Attenuation		50	65		dB
$I_{muteBIAS}$	Mute bias current Mute1/Mute2	Mute		1	5	µA
		Play		0.2	2	µA

Figure 1. PC Boar and Component Layout

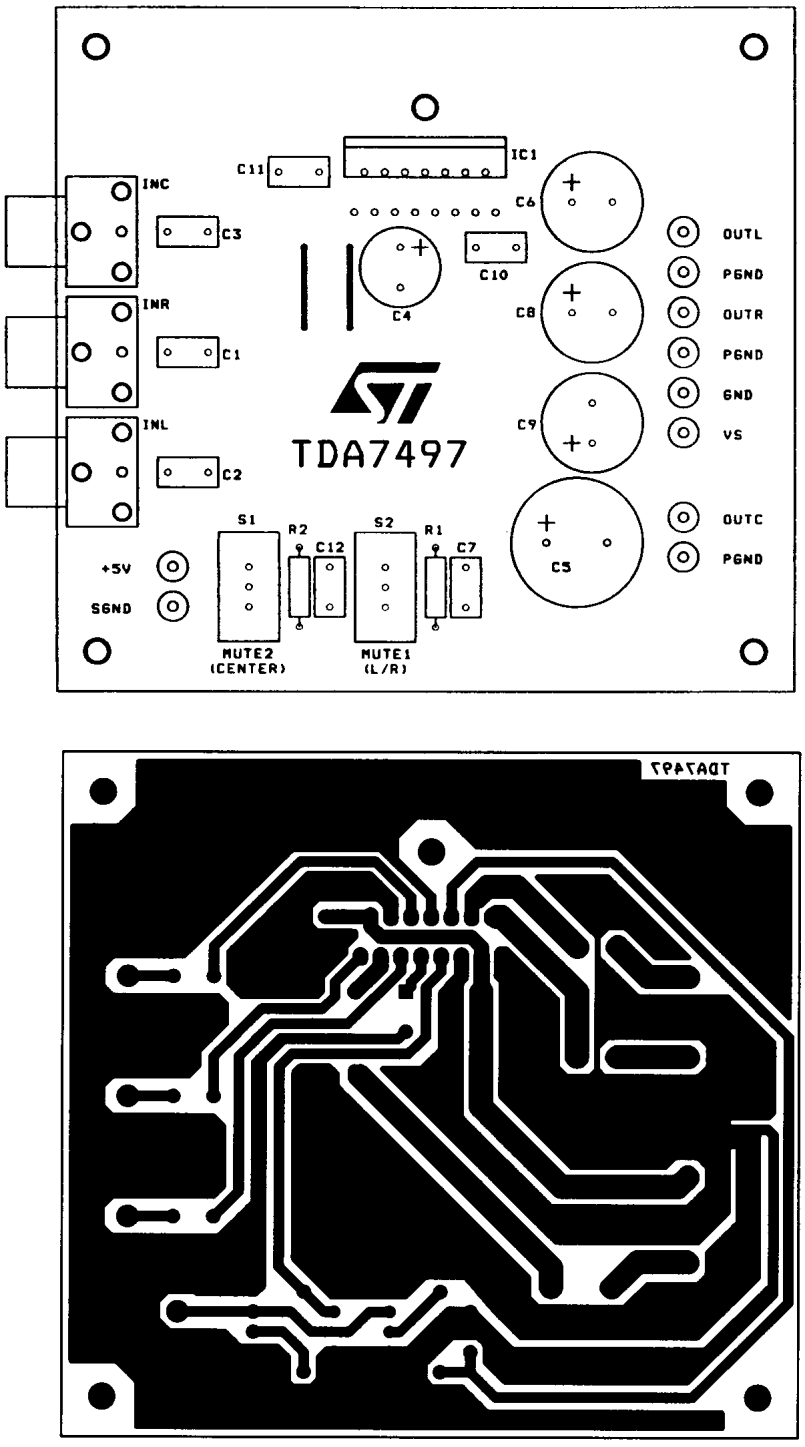


Figure 2. Output Power vs Supply Voltage (L/R)

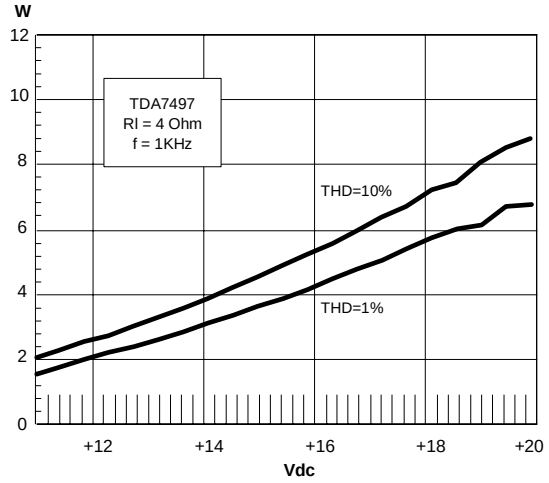


Figure 3. Output Power vs Supply Voltage

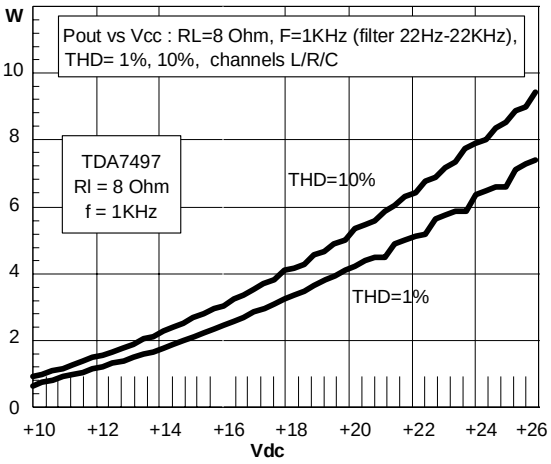


Figure 4. Frequency Response

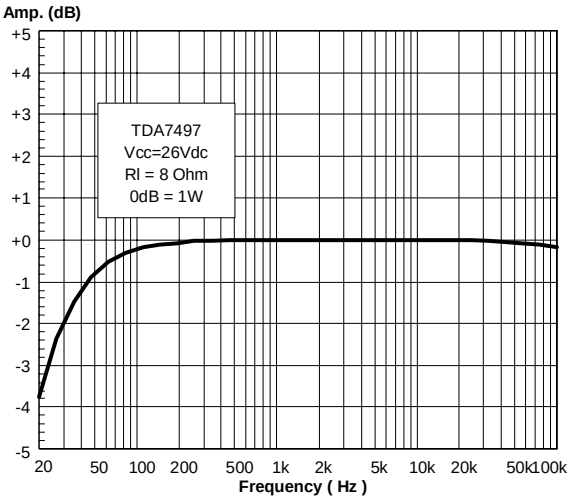


Figure 5. THD+N vs Output Power

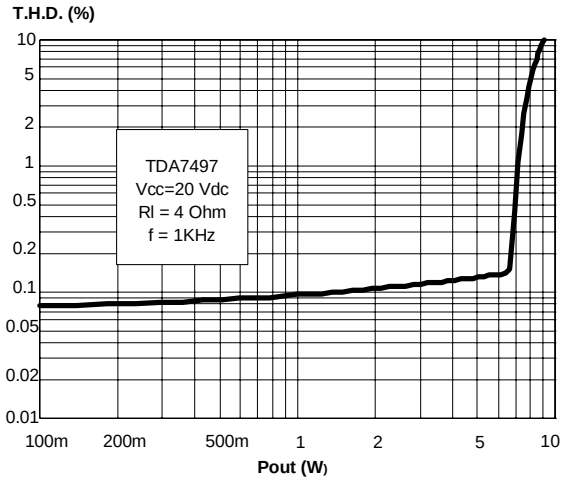


Figure 6. THD+N vs Output Power

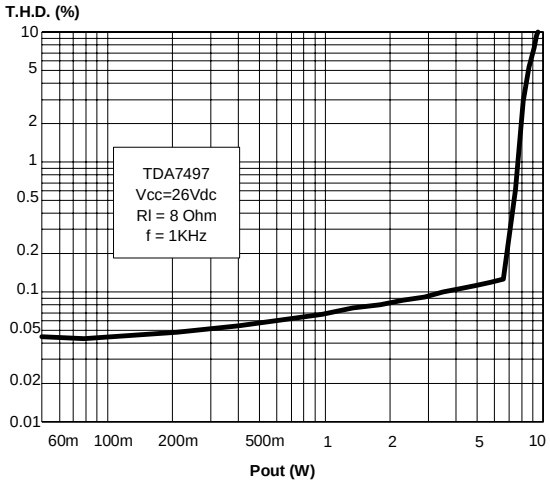
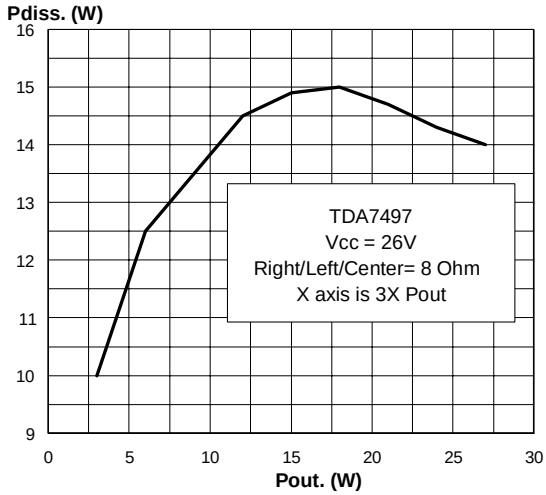
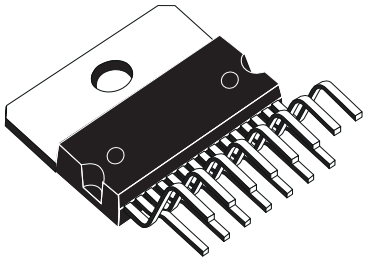


Figure 7. Pdiss vs Output Power

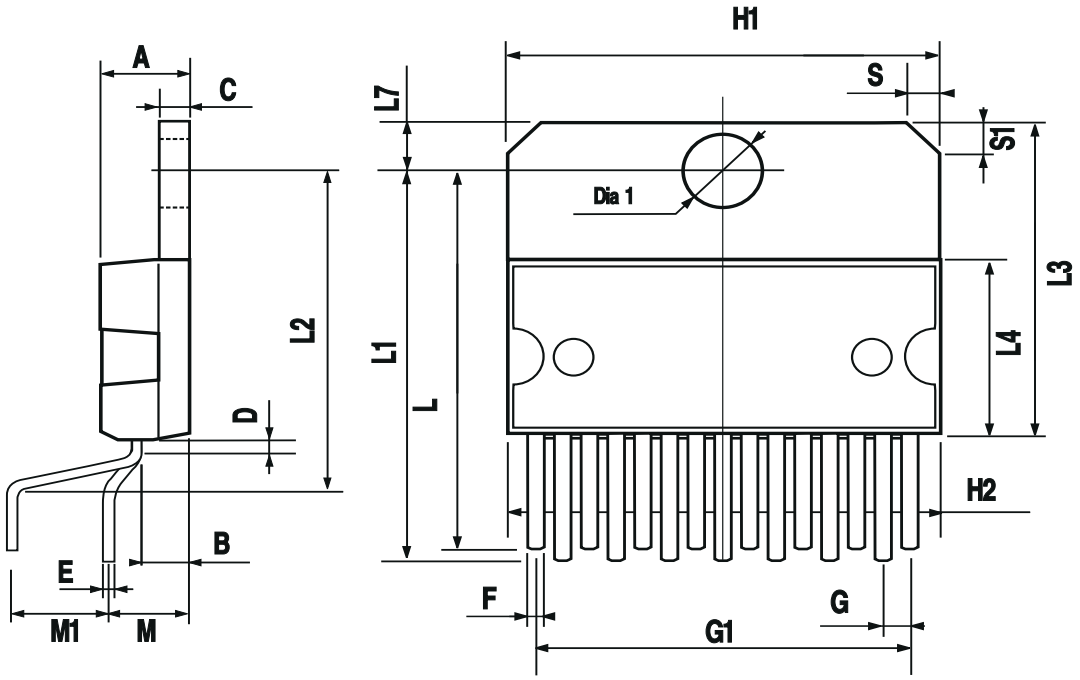


DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			5			0.197
B			2.65			0.104
C			1.6			0.063
D		1			0.039	
E	0.49		0.55	0.019		0.022
F	0.66		0.75	0.026		0.030
G	1.02	1.27	1.52	0.040	0.050	0.060
G1	17.53	17.78	18.03	0.690	0.700	0.710
H1	19.6			0.772		
H2			20.2			0.795
L	21.9	22.2	22.5	0.862	0.874	0.886
L1	21.7	22.1	22.5	0.854	0.870	0.886
L2	17.65		18.1	0.695		0.713
L3	17.25	17.5	17.75	0.679	0.689	0.699
L4	10.3	10.7	10.9	0.406	0.421	0.429
L7	2.65		2.9	0.104		0.114
M	4.25	4.55	4.85	0.167	0.179	0.191
M1	4.63	5.08	5.53	0.182	0.200	0.218
S	1.9		2.6	0.075		0.102
S1	1.9		2.6	0.075		0.102
Dia1	3.65		3.85	0.144		0.152

OUTLINE AND MECHANICAL DATA



Multiwatt15 V



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics
® 2003 STMicroelectronics - All Rights Reserved

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan -Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.
http://www.st.com

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.